

ABSTRACT OF THE DISCLOSURE

A Microwave/Millimeter-wave Monolithic Integrated Circuit (MMIC) device including PIN diode and Schottky diode circuits that provides improved performance with a
5 reduced cost of manufacture. The planar, glass-passivated, MMIC device is fabricated in silicon technology and includes mesa isolation between the PIN diode and the Schottky diode. The PIN and Schottky diodes include respective anode regions having different
10 thicknesses and resistivity for implementing the PIN and Schottky diode functions. Further, the Schottky anode region is formed relatively late in a process for fabricating the Si MMIC device to allow the Schottky anode region to be formed in approximately the same plane
15 as the PIN anode region and to allow precise control of the relative thicknesses of the PIN and Schottky anode regions.

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